

**MECHANISM FOR USING THE ALLPASS DECOMPOSITION
ARCHITECTURE FOR THE CAUER LOW PASS FILTER USED IN A BTSC**

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ABSTRACT OF THE DISCLOSURE

[047] An BTSC encoder with an improved digital filter structure substantially implemented on a single CMOS integrated circuit is described. By cascading first and second order allpass filter structures to form a higher order digital filter, such as a Cauer low pass filter, limit cycle oscillations are reduced or eliminated, word-length growth from one stage to the next is contained, and a more efficient overall filter structure and performance is obtained.